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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,067	10/30/2001	Michael Lohman	PD-201010	3580

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EXAMINER	
FOX, BRYAN J	

ART UNIT	PAPER NUMBER
2686	2

DATE MAILED: 08/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/002,067	LOHMAN ET AL.	
	Examiner	Art Unit	
	Bryan J Fox	2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 October 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 30 is objected to because of the following informalities: an extra period is present at the end of the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 28-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 28, two terminals are mentioned followed by the limitation "the terminal". It is unclear to which terminal the applicant is referring. The examiner suggests referring to a first terminal and a second terminal in order to clearly point out the subject matter which the applicant regards as his invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 6, 10, 15, 19, 24, 29, 33, 37 and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Westall et al (US006718161B1).

Regarding claim 1, Westall et al discloses a wireless communication system with a satellite 10 that contains a packet switch 30, that is receiving data from potentially multiple resources that communicate to the satellite. The packet switch 30 reads a packet header 44 and routes the packet data 38 to the downlink antenna 12 disposed on the satellite (see column 3, lines 49-54). The packet header may contain information such as user destination (packet destination) (see column 3, lines 54-58) and therefore reads on the claimed addressing information. At approximately the time the packet data 38 arrives at the antenna transmitter 34, the beam pointing angle 46 is commanded to the transmitter 34 and an antenna beam 50 is formed having a pointing angle 46 which directs the peak 48 of the antenna beam 50 at a selected user 52 (see column 4, lines 16-62 and figure 2), which reads on the claimed "electronically steering a beam of an antenna in response to the addressing information".

Regarding claim 10, Westall et al discloses a wireless communication system with a satellite 10 that contains a packet switch 30, that is receiving data from potentially multiple resources that communicate to the satellite. The packet switch 30 reads a packet header 44 and routes the packet data 38 to the downlink antenna 12 disposed on the satellite (see column 3, lines 49-54). The packet header may contain information such as user destination (packet destination) (see column 3, lines 54-58) and therefore reads on the claimed addressing information. At approximately the time the packet data

38 arrives at the antenna transmitter 34, the beam pointing angle 46 is commanded to the transmitter 34 and an antenna beam 50 is formed having a pointing angle 46 which directs the peak 48 of the antenna beam 50 at a selected user 52 (see column 4, lines 6-62 and figure 2), which reads on the claimed "antenna having a beam and being configured to transmit the message; and logic configured to electronically steer the beam of the antenna in response to the addressing information".

Regarding claim 19, Westall et al discloses a wireless communication system with a satellite 10 that contains a packet switch 30, that is receiving data from potentially multiple resources that communicate to the satellite. The packet switch 30 reads a packet header 44 and routes the packet data 38 to the downlink antenna 12 disposed on the satellite (see column 3, lines 49-54). The packet header may contain information such as user destination (packet destination) (see column 3, lines 54-58) and therefore reads on the claimed addressing information. At approximately the time the packet data 38 arrives at the antenna transmitter 34, the beam pointing angle 46 is commanded to the transmitter 34 and an antenna beam 50 is formed having a pointing angle 46 which directs the peak 48 of the antenna beam 50 at a selected user 52 (see column 4, lines 6-62 and figure 2), which reads on the claimed "means for electronically steering a beam of an antenna in response to the addressing information".

Regarding claim 28, Westall et al discloses a wireless communication system with a satellite 10 that contains a packet switch 30, that is receiving data from potentially multiple resources that communicate to the satellite. The packet switch 30 reads a packet header 44 and routes the packet data 38 to the downlink antenna 12 disposed

on the satellite (see column 3, lines 49-54). The packet header may contain information such as user destination (packet destination) (see column 3, lines 54-58) and therefore reads on the claimed addressing information. At approximately the time the packet data 38 arrives at the antenna transmitter 34, the beam pointing angle 46 is commanded to the transmitter 34 and an antenna beam 50 is formed having a pointing angle 46 which directs the peak 48 of the antenna beam 50 at a selected user 52 (see column 4, lines 6-62 and figure 2), which reads on the claimed "the terminal including an antenna having a beam that is electronically steered in response to the addressing information".

Regarding claim 37, Westall et al discloses a wireless communication system with a satellite 10 that contains a packet switch 30, that is receiving data from potentially multiple resources that communicate to the satellite. The packet switch 30 reads a packet header 44 and routes the packet data 38 to the downlink antenna 12 disposed on the satellite (see column 3, lines 49-54). The packet header may contain information such as user destination (packet destination) (see column 3, lines 54-58) and therefore reads on the claimed addressing information. At approximately the time the packet data 38 arrives at the antenna transmitter 34, the beam pointing angle 46 is commanded to the transmitter 34 and an antenna beam 50 is formed having a pointing angle 46 which directs the peak 48 of the antenna beam 50 at a selected user 52 (see column 4, lines 6-62 and figure 2), which reads on the claimed initiating electronic steering of a beam of an antenna in response to the addressing information".

Regarding claims 6, 15, 24, 33 and 42, Westall et al discloses that a packet header may contain information such as user destination (packet destination) (see

column 3, lines 54-58), and the antenna beam is pointed at the user (see column 4, lines 6-62 and figure 2), so the packet header, which reads on the claimed "prepended tag", contains information for directing the beam as claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2, 11, 20, 29 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Westall et al in view of Olds (US006757263B1).

Regarding claims 2, 11, 20, 29 and 38, while Westall et al fails to disclose that the header provides the modulation type.

In an analogous art, Olds discloses a wireless communication system that transmits packet data 60 that may include a link header 64 (see column 7, lines 16-17) and the link header 64 may specify transmission parameters such as rate, coding, modulation type and order, and the like (see column 7, lines 33-35).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Westall et al with Olds to include transmission parameters such as coding and modulation type in order to take advantage of the benefits of supporting different systems such as providing an efficient underlying infrastructure upon which standard network protocols and services can be operated as suggested by Olds (see column 2, lines 60-67).

Claims 3, 4, 12, 13, 21, 22, 30, 31, 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Westall et al in view of Simpson et al (US005475863A).

Regarding claims 3, 12, 21, 30 and 39, Westall et al discloses the use of a transmission buffer (see column 3, lines 62-67), however, Westall fails to expressly disclose selection of a queue based on availability.

In an analogous art, Simpson et al discloses a radio communication system and when a message is queued, it is determined whether a simulcast queue is full at step 1930, or when it is not full but a maximum queuing time has been exceeded, at step 1940, the messages are buffered for imminent transmission (see column 17, lines 12-23 and figure 14). A similar process is used for the re-use queue (see column 17, lines 26-51). The buffer storing messages for imminent transmission reads on a queue and together with the simulcast queue or reuse queue makes a plurality of queues. The maximum queue time reads on the claimed delay parameter.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Westall et al with Simpson et al include the above multiple queues in order to avoid loss of information in case one queue is full.

Regarding claims 4, 13, 22, 31 and 40, the combination of Westall et al and Simpson et al discloses that the packet header 44, which reads on the claimed "addressing information", may contain transmission priority data 42 (see Westall et al column 3, lines 54-58). The processor 32 receives transmission priority data and may store the packet data based on transmission priority (see Westall et al column 3, line 67 – column 4, line 5).

Claims 5, 9, 14, 18, 23, 27, 32, 36, 41 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Westall et al in view of Eyuboglu et al (US 20030026240A1).

Regarding claims 5, 14, 23, 32 and 41, Westall et al fails to expressly disclose the use of one of the communications protocols claimed.

In an analogous art, Eyuboglu et al discloses wherein it was well known to use an IP multicast system in a wireless network (see figure 8 and page 4, paragraph 42), which reads on the claimed invention using internet protocol (IP).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Westall et al with Eyuboglu et al to include the above use of IP in order to take advantage of the benefits of a standard protocol such as reliability and error detection as suggested by Eyuboglu et al (see page 1, paragraph 7).

Regarding claims 9, 18, 27, 36 and 45, Westall et al fails to expressly disclose the ability of point-to-multipoint communications.

In an analogous art, Eyuboglu et al discloses a multicast packet data system in a wireless communication network (see page 4, paragraphs 42-44).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Westall et al with Eyuboglu et al to include the above multicasting in order to best serve the users by incorporating more features and services.

Claims 7, 16, 25, 34 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Westall et al in view of Suzuki (US20010028648A1) and further in view of Pate et al (US 20030091047A1).

Regarding claims 7, 16, 25, 34 and 43, Westall et al fails to disclose comparing the delay to a predetermined value.

In an analogous art, Suzuki et al discloses a packet data transmission system where the delay of a packet is compared to a predetermined delay threshold. If the delay information is less than the threshold, the packet is updated and transmitted. If the delay information exceeds the threshold the packet is abandoned (see pages 2-3, paragraph 24), which reads on the claimed invention that compares a delay value to a threshold and transmits the message based on this step.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Westall et al with Suzuki to include the above comparing of a

delay with a threshold in order to prevent invalid packets from increasing delay time as suggested by Suzuki (see page 2, paragraph 24). The combination of Westall et al and Suzuki fails to expressly disclose the use of a service level agreement.

In an analogous art, Pate discloses a system where a service level agreement for a packet service will often include a limit on absolute packet delay (see pages 2-3, paragraph 35) and priority is given to packets covered by a premium SLA (see page 3, paragraph 36).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Westall et al and Suzuki to include the above use of a service level agreement in order to provide users with a known metric of the quality of service they are to receive.

Claims 8, 17, 26, 35 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Westall et al in view of Fox (US005785085A).

Regarding claims 8, 17, 26, 35 and 44, Westall et al suggests transmitting packets based on priority and destination (see column 3, line 67 – column 4, line 5).

In an analogous art, Fox discloses a data transmission optimization method where the all data with common address labels are ordered into separate groups, with each group having a single data address label and data block, then transmitting the block (see column 8, lines 47-55).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Westall et al with Fox to include the above ordering of data

based on common addresses in order to significantly improve the data transmission rate as suggested by Fox (see column 2, lines 57-59).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan J Fox whose telephone number is (703) 305-8994. The examiner can normally be reached on Monday through Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (703) 305-4379. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BJF

CHARLES APPIAH
PRIMARY EXAMINER